

# ***TPC***

## User Manual



### LED 55BN Built In LED Curing Light

- LED55BN must be installed and operated by a qualified dental professional.
- All instructions in this USER'S MANUAL must be completely read before installation or operation.
- The user should wear colored protective glasses to avoid eye injury by the light.

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# 1. INTRODUCTION

Thank you for purchasing the LED 55BN curing light. The LED 55BN is a dental curing light which uses the latest LED technology to polymerize composite resin.

## Caution



Attention: Important information is being presented. Refer to the Operator's Manual for more information.



High intensity Light: Protect your eyes from the light generated by this product



Shock Hazard: Beware of electrical shock or injury. Type B Applied Part



Class II Medical Equipment



Electronics Waste: Properly dispose of when use is discontinued.

## 1.1 Technical Information

Range of Light (in nm)	430 - 490 nm
Light Intensity at the Tip (mW/cm <sup>2</sup> )	1200 mW
Battery Life	200 cycles at STANDARD mode, 10 seconds per cycle; 135 cycles at STANDARD mode, 20 seconds per cycle.
Charging Time to Complete	5 Hours
Battery Type	Lithium Ion
Cradle Battery	Rechargeable
Operating Temperature	15 - 30°C (60 - 86°F); Unit turns off automatically when the temperature at the wand tip reaches 48° C
Power Input, Curing Light	5.2 VDC @ 1.0 A
Power Input, Power Supply	90 - 240 VAC @ 50 - 60 Hz
Pulse Rate	10 Hz
Pulse Duty Cycle	50%
Storage and Transport Conditions	0 - 40°C (32 - 104°F) 0 - 100% RH -1000 to + 9000 meters elevation

# 2. FEATURES

1. Latest LED technology.
2. Minimal heat output.
3. Three preset programs

□ FAST : Full power output.

⏏ PULSE : 0.5 second intermittent output.

↗ RAMP : Soft start.

## 4. Timer

The Led 55BN has a fixed timer. The unit will cure for a total of 20 seconds. At 10 seconds the light will “beep” indicated that you have reached the 10 second time mark. At 20 seconds the light will “beep” again and automatically stop the curing process.

## 5. Sleeping Mode

If the LED 55BN is unused for a period of 3 minutes the curing light will convert to “Sleep Mode” to conserve power.

## 6. Auto Memory

LED 55BN will remain in previous settings including the curing time and the curing program.

## 7. Built in

The LED 55BN always has power supplied to it.

## 10. Over Heat indicator

The low battery indicator light will illuminate “red” when the battery does not have sufficient power to operate the light. The over heat light will illuminate “yellow” if the handpiece has over heated.

When the light is illuminated “green” the light has sufficient power to cure.



# 3. Accessories



1. Curing Light Handpiece  
PN: LED55BHP

2. Power Supply  
LED55B PSW

3. Oval Protector  
PN: P219

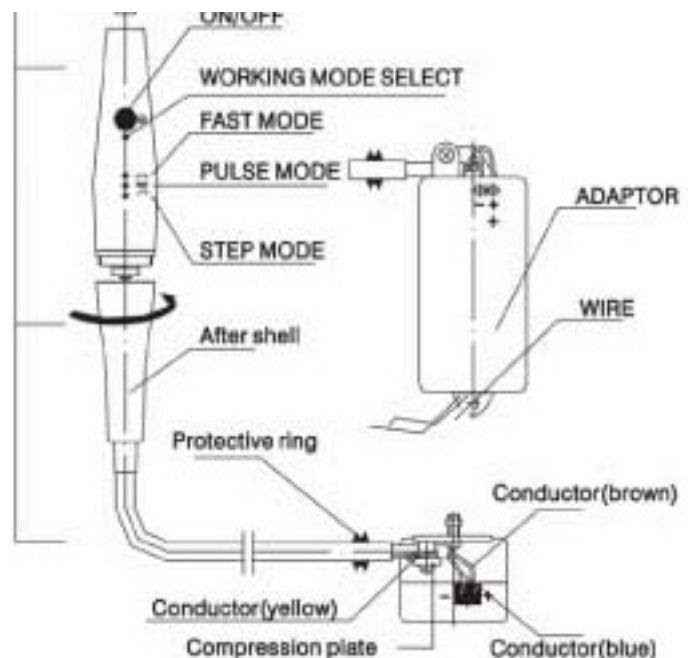
4. Light guide  
PN: P109

5. LED55BN HP tubing

6. Function Switch

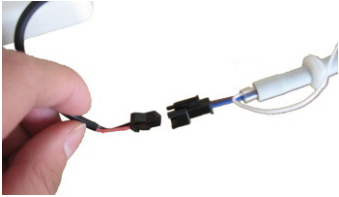
# 4. Installation

Step 1 : Connect Power Adapter to input to power supply. Check the voltage on the power adaptor. It should read 90 - 240 Vac or 24V AC. Depending on which unit was ordered will determine which power adaptor you received.



## 4. Installation continued....

Step 2: Attach the HP tubing to the main power adaptor as shown. The connector will only fit one way so do not force it into place.



Step 3: Attach the HP tubing to the back of the curing light. Once the threads are aligned, turn the light clockwise to fasten it onto the tubing.



Step 4: Attach the light guide. To attach the light guide, gently slide the chuck portion of the light guide into the end of the curing light handpiece. You may rotate the light guide once its properly seated into the light.



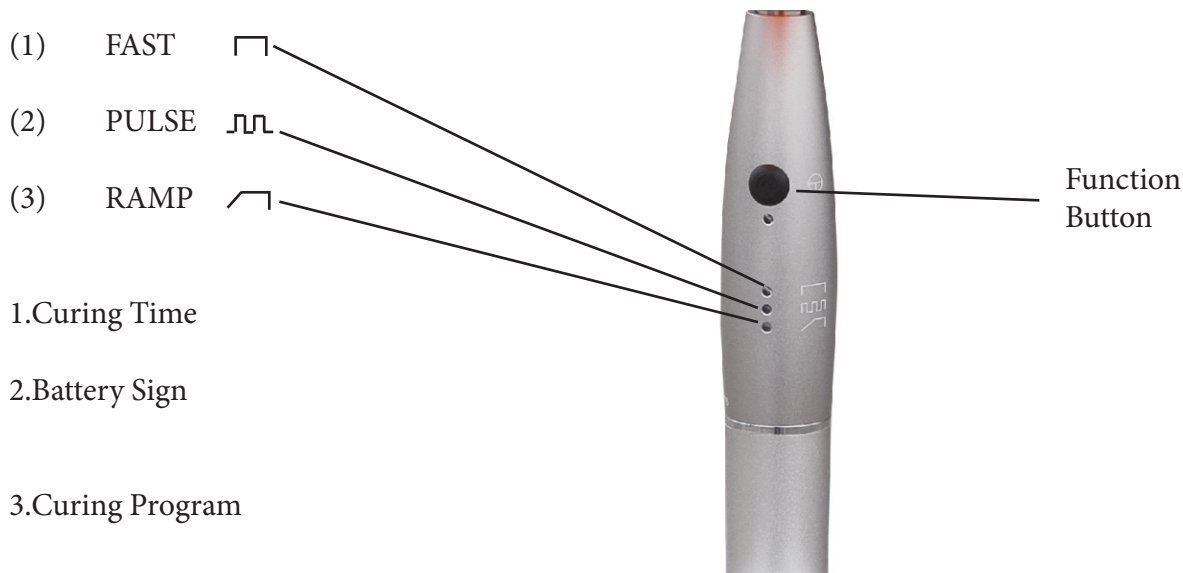
Step 5: Place the light shield onto the chuck portion of the light guide.



# 5. Operation

## A. Set Curing Program

Press and hold the function switch for two seconds and you will see the modes change every second. To stop on the desired mode simply let go of the depressed button for the desired mode.



## B. Set Timer

The LED55N has a fixed curing time of 20 seconds. The light will beep at 10 seconds and then automatically stop the curing process at 20 seconds.

## C. Start to Operate

Press button to start curing program. To interrupt a program, press curing button again. When the program finishes, the curing light handpiece will beep again then turn off the light immediately.

## D. Turn off the Power

Allow curing light handpiece to enter into sleeping mode automatically. This will shut down the curing function to save the power. To completely shut down curing light disconnect from handpiece tubing.

# 6. MAINTENANCE

1. Be sure there is no resin or material sticking to the surface of the light guide.
2. If materials are sticking on the light guide immediately clean it with soft cloth. Keep light guide clean for better light intensity and curing performance.
3. The light guide should be sterilized after each use. It can be safely autoclaved at 121 °C. For no more than 15 minutes. Let cool before handling.
4. The other accessories such as curing light handpiece and eye protector should be scrubbed with pure water and sheathed in accordance with standard disinfection procedures.
5. Keep curing light handpiece in charging station while not in use.
6. The User should wear colored protection glasses to avoid eye injury due to LED light.

# 7. TROUBLESHOOTING

Fault	Possible Cause	Solution
The low battery indicator on the curing light is solid red	power supply failing	Repalce power supply
The overheat indicator light is orange	The curing light has overheated	Allow to cool for 10 min
When the light is not in use it emits light from the end.	Damage to main PCB board on light.	Return for factory service.
My light guide is very loose when placed in the curing light	O-ring damaged or missing	Check o-ring or repalce
The light changes modes on its own	Function button is depressed in	Verify the function button is not stuck. Press and release the function button
None of the mode or status lights are illuminating	power supply not working Contacts are dirty on the back of the light	check power supply Clean contacts
When i try to attach the light to the tubing its very tight and will not fully attach	Tubing may have been dropped and the threads are dented in	Repalce / repair tubing
I see a halo pattern when the light is being used	Light guide has cracks in the fiber	Replace light guide



# Warranty Information

All of our products sold are guaranteed to be free from defects in workmanship and materials for a 1 year from date of purchase, unless otherwise stated. TPC will repair or replace any defective part at no charge. During the warranty period. TPC will not be responsible for labor charges or shipping charges to / from the TPC facility. This guarantee does not cover normal wear or stains on surface finish. The guarantee does not cover damage resulting from improper installation or misuse. All claims against the freight carrier must be initiated at the time the damaged items are received. The claim is the responsibility of the customer. We are improving our products on a continuous basis. We reserve the right to make modifications without the need for prior notification and are not obligated to modify previously manufactured items. Light guides and batteries are not covered under any type of warranty.

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## Warranty Card

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip \_\_\_\_\_

Phone Number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ FAX: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Email Address \_\_\_\_\_

Model: LED 55N

Handpiece: SN \_\_\_\_\_

Base: SN \_\_\_\_\_

Please complete this card and return it to TPC. Include a copy of your invoice or packing slip.

Return to:

TPC Advanced Technology

851 S. Lawson St

City Of Industry, CA 91748

Or Email a scanned copy to [service@tpcdental.com](mailto:service@tpcdental.com)